

MINISTRY OF THE INTERIOR, EGYPT.

Department of Public Health.

TENTH ANNUAL REPORT OF
THE OPHTHALMIC SECTION,
1922.

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ANNUAL REPORT ON THE WORK OF THE OPHTHALMIC NEEDS OF CAIRO FOR 1922.

SECTION III.

I.—GENERAL REMARKS.

(a) Ophthalmic Needs of Cairo.

In the Report for the year 1919 the provision of a large central ophthalmic hospital for Cairo was recommended. For this purpose the Government were prepared to grant a suitable site in Bulâq, one of the most populous quarters of Cairo, on condition that the money for building was raised from voluntary sources within two years. However, owing to political troubles at that time the money was not raised and the offer of the site lapsed.

Experience of the ophthalmic needs of Cairo has been considerably increased during the last two years by the maintenance of two tent hospitals one at Gîza and one at Rôd el Farag. The hospital at Gîza ministered mainly to the inhabitants of Gîza town and the more distant markazes of Gîza Mudîriya, while the hospital at Rôd el Farag ministered not only to the very large working class population around the site of the hospital but also to those of Saptîya and Bulâq. If it is ever possible to increase the facilities for ophthalmic relief in Cairo it may be desirable to consider the advisability of building small hospitals at a cost of L.E. 10,000 to L.E. 15,000 on the outskirts of Cairo rather than to build at any one place a single expensive hospital which it might be difficult for the inhabitants of even the immediate suburbs of Cairo to visit. The Rôd el Farag Hospital should be replaced by an adequate building as soon as possible and, in the future, hospitals should be built at Bulâq, Abbâsiya, Helmîya, and Saîyeda Zeinab.

For the purpose of training ophthalmic surgeons the new permanent hospital at Gîza and the Gîza Laboratory will if necessary be found amply sufficient, together with the clinical material obtainable at Rôd el Farag.

(b) Ophthalmic Needs of Governorates other than Cairo.

Alexandria, Port Said, Damietta, Suez, with note on Rosetta.

At Alexandria a section of the Government Hospital has been allotted for ophthalmic purposes. There is a good operating room, beds for thirty patients, and a fairly satisfactory out-patients department. As the Government hospital is increased in size a part of the new buildings should be devoted to a self-contained ophthalmic block. This arrangement would be very satisfactory, and it is to be hoped that money will be forthcoming from the Ministry of Finance for the purpose in the next budget.

The Municipality of Alexandria in addition maintains a very useful ophthalmic hospital which reflects great credit on both the Municipality and the Surgical Staff.

At Port Said a very satisfactory out-patient clinic has been provided by the Municipality and is maintained by the Government. A few beds in the Government Hospital are available for ophthalmic cases.

The Government Hospital at Damietta is on the point of being rebuilt and a credit is available for this purpose. In the new building a satisfactory Ophthalmic Department has been provided. In the mean time temporary quarters have been provided, and an ophthalmic clinic is now being carried on.

At Suez a section of the Government Hospital will be devoted to ophthalmology, as soon as the hospital has been enlarged: plans are ready for this purpose.

Rosetta, situated in an isolated position 71 kilometres from Alexandria, although no longer a Governorate, may be considered here. The town itself has a population of 21,950, while the police district of which Rosetta is the centre has a population of 77,669; there is no hospital of any kind here. While a travelling hospital was working at Rosetta, during 1917 a very large amount of work was done showing the need for ophthalmic relief.

(c) Mudiriya Hospitals.

Thirteen of the fourteen provinces of Egypt have now been supplied each with a specially built and specially designed ophthalmic hospital. The money for capital expenditure has been provided as follows: The Government L.E. 19,240, Provincial Councils or Municipalities L.E. 33,326; public subscriptions or private benefactions L.E. 58,126; all are maintained by the Government.

The hospital most recently opened is that of Qena.

The Gîza Hospital is being carried on temporarily in tents until the building is completed.

(d) Ophthalmic Needs of the Southernmost Part of Egypt.

A travelling hospital housed under canvas provides for the ophthalmic needs of the southern province, Aswân. This province, extending for 300 kilometres along the banks of the Nile, is too poor to provide a sum sufficient to build and equip a permanent hospital. It is desirable that there should be a built hospital at the capital town of the province Aswân, as a centre for the ophthalmic campaign both north and south of that town. North of Aswân town the travelling hospital will always be required for the towns of Isna (population 17,386), Idfû (population 20,102), and Kom Ombo (population 20,185) which are a very long way from the existing hospital at Qena, and the proposed hospital at Aswân. South of Aswân town the river should be patrolled by a floating hospital for the relief of the inhabitants of Upper Nubia as far south as Wadi Halfa.

However, it is not possible for the Government to provide a floating hospital for the province as well as a permanent hospital at Aswân town, especially if, the travelling hospital already at work in the province is allowed to remain there. Perhaps however this floating hospital for the southernmost part of Egypt may be provided by some outside agency.

(e) Ophthalmic Hospitals in the Markazes.

Some years ago ophthalmic hospitals were built in three of the largest markazes, Mahalla el Kubra, Kafr el Zaîyât, and Santa. These hospitals were and are maintained by the Provincial Council of Gharbîya. They are controlled by the Director of the Ophthalmic Section of the Department acting as the Deputy of the President of the Council; so that the full power remains with the Council.

The Provincial Councils of Daqahlîya and of Asyût also each maintains a travelling hospital in tents: each of these hospitals is maintained in the same way, to the mutual satisfaction of the Provincial Council and of the Department of Public Health.

It is desired that all provincial councils should be aware that if they are able to afford to provide a travelling or a built hospital and to maintain it, the Department of Public Health is prepared to have plans and estimates made for submission to the provincial council, and to manage the hospital when it is ready as the deputy of the President of the Council. All this is done gratuitously. Well trained ophthalmic surgeons are provided for the hospitals and replaced during illness, leave, etc. Efficient inspection also is provided by the Department.

(f) The Oases.

The Frontiers District Administration, is fully aware of the importance of providing ophthalmic treatment in the districts under its control, such as Mersa Matrûh, Sollûm, Kharga, and Dakhla; also in the Sinai Peninsula, and Egyptian Medical Officers of Frontier Districts Administration are sent to the Ophthalmic Hospital at Gîza for theoretical and practical courses as circumstances allow.

(g) **Ophthalmic Laboratory.**

In the last Report it was shown that the clinical ophthalmic pathological and bacteriological work was accommodated in a hired building at Gîza. Also that money for the construction of a special laboratory, on a site adjoining the new permanent hospital at Gîza, had been granted by the Imperial War Graves Commission as a memorial to the men of the Egyptian Labour Corps and Camel Transport Corps who fell in the Great War.

The plans of the Laboratory are those approved by the London Committee of the Imperial War Graves Commission. The Egyptian Government has granted a sum of L.E. 2,000 for the equipment of the Laboratory.

2.—CLINICAL SECTION.

(a) **Glaucoma.**

The number of cases of primary glaucoma examined during the year 1922 was 2,512 or 1·7 per cent of the total number of new patients presenting themselves for treatment. This number included 1,968 cases of absolute glaucoma in one or both eyes.

The operation performed was usually Elliot's operation of trephining the coreno-sclera combined with iridectomy through the trephine hole ; 503 operations were performed. In 466 operations, including those in which owing to lenticular opacity extraction would have to be performed sooner or later, iridectomies were performed.

In the report for the year 1913 was mentioned: "the operation can and should be performed for a patient on an unaffected eye, as soon as the fellow eye has been definitely diagnosed as glaucomatous, since the operation is almost devoid of risk, and early operation is prophylactic against the development of increased tension, glaucoma usually affecting both eyes sooner or later." This policy has been religiously adhered to during the last 10 years, and there is no reason to alter this opinion. Secondary infections are extremely rare in Egypt, only seventeen cases having been reported since 1911 out of 5,017 operations of trephining performed during this period.

The extraordinary difference in the incidence of secondary infection between our experiences in Egypt and the experience of some European surgeons must have its origin in one of four causes:—

(1) Defective inspection of post operation cases in Egypt: the patients developing much more secondary infection than we have knowledge of but refraining from presenting themselves at hospitals.

(2) The texture of the conjunctiva of the Egyptians being of a more resistant nature than that of Europeans. (*See Report for 1921, p. 8.*)

(3) The technique used being of a more adroit nature than that in Europe.

(4) Greater liability to endogenous infection in Europe than in Egypt. It is impossible to form a definite opinion at the present time on this important matter.

It must be remembered that the cases here considered were all hospital patients, who instantly agreed to whatever operative treatment was proposed by the hospital surgeon, a very different state of affairs to that obtaining in Europe among glaucoma patients.

TABLE I.—PRIMARY GLAUCOMA.

Acute	39
Subacute	97
Chronic	2,376
TOTAL	2,512
Total number of patients examined	147,492
Per cent of glaucoma cases	1.70
Per cent of absolute glaucoma cases	1.33
Operations :—	
Iridectomy	466
Trephining with iridectomy	503

* Including 1968 absolute monocular and binocular.

(b) Cataract Operations.

The operation of election in the 641 extractions of senile cataract performed during 1922 was the combined operation of extraction with iridectomy. In certain cases of complicated cataract a preliminary iridectomy was performed.

Loss of vitreous is an exceedingly serious event in the operation and one to be avoided by every means in the power of the operator, as in such a large number of cases detachment of the retina occurs either as an immediate or as a delayed sequela of the operation.

The average of vitreous loss for thirty-three operators of 6.8 per cent seems to be not excessive as compared with the results published by those surgeons in other countries who go in for what may be called the more fancy operations. It must be remembered that some of our surgeons are very junior, also that complicated operations are more frequent than in England, owing to the effect of trachoma and acute ophthalmias.

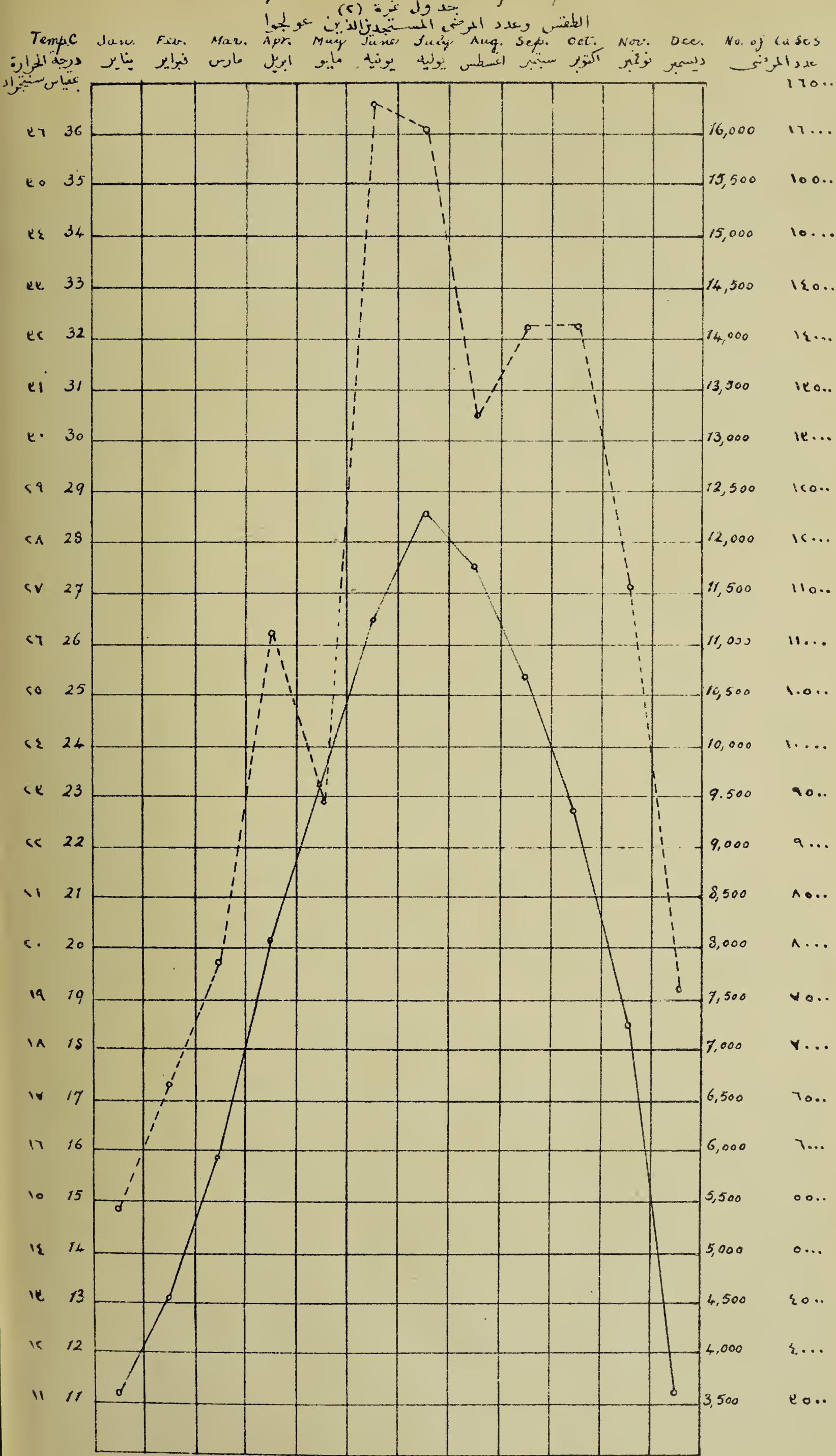
A selection of the operation which best suits the operator, which can be performed in the minimum time with the minimum disturbance of the tissues, and which is least likely to be followed by loss of vitreous appears to me to be obviously the best line to take.

(c) Influence of Temperature on Eye Disease.

The six months June to the end of November corresponding to the warmer months of the year are those in which the amount of clinical work is at its maximum. The relation between the temperature and the number of new patients treated is shown in the accompanying graph.

The relation of the incidence of various micro-organisms to the temperature given has been sufficiently worked out in these Reports annually since 1914 and will not be dealt with further.

Table II.
Temperature and number of new patients treated



a. ————— Average temperature in degrees centigrade

b. - - - - - New patients treated per month

(d) **Acute Ophthalmia.**

The importance of applying treatment as soon as attack of acute ophthalmia appears is of course self evident. Frequently however, the patient defers coming to the hospital until ulceration of the cornea has already developed.

In these cases whatever may be the bacteriological cause of the condition, the local treatment is the same, thorough swabbing of the conjunctiva of the everted upper and lower lids with silver nitrate 2 per cent, in the morning, (and again in the evening in all severe cases, taking care, however, not to cause excessive necrosis of the superficial epithelium). Constant washing of the eyes by the patient himself under supervision, with, if possible, occasional irrigation of the conjunctival sac by the surgeon, with ordinary surgical eusol solution is to be used.

If, owing to the weather or other conditions, the eusol cannot be utilised at its full strength, potassium permanganate solution of a strength of 1 in 5,000 should be used.

The following table is interesting although the deductions to be drawn from it must be taken with some reserve. The micro-organisms were spotted in the ordinary clinical routine from their morphological characters as seen in a film preparation only. Also as regards the ulceration occurring in patients under treatment the results given are probably too low for two reasons, one being that many patients do not continue their attendance if they are not rapidly progressing, and the other is the natural reluctance of medical officers to report their less satisfactory cases.

TABLE III.—ULCERS COMPLICATING CONJUNCTIVAL INFECTION DURING 1922.

ORGANISM.	No. Ulceration.	ULCERATION OCCURRING IN		Total.	Per Cent of Cases in which Ulceration occurred.
		New Patients.	Patients under Treatment.		
Gonococcus	7,779	3,473	53	11,305	31·18
Koch-Weeks	4,183	1,230	8	5,421	22·82
Pneumococcus	149	151	1	301	50·49
Morax-Axenfeld	1,025	389	2	1,416	27·61
Mixed infection	505	260	—	765	33·98
TOTAL... ..	13,641	5,503	64	19,208	38·97

From the table it is seen that a very small percentage of patients who come under treatment before ulceration develops, suffer any damage to the cornea.

The organisms most frequently found were in the following order (in cases in which the cornea was ulcerated) pneumococcus, mixed infection, gonococcus, Morax-Axenfeld bacillus, Koch-Weeks bacillus. These are in exactly the same order as was shown in the last Report.

(e) **Membranous Conjunctivitis.**

Membranous conjunctivitis is not uncommon in Egypt, especially during the warmer months. Up to the present time microscopical examination of the conjunctival discharge with an oil immersion lens has always failed to show the presence of organisms other than the gonococcus, the Koch-Weeks bacillus, the pneumococcus, the staphylococcus, the streptococcus, Morax-Axenfeld or Xerosis bacillus. During August and September of year 1922, however, a diphtheritic condition being suspected by one of the Medical Officers material was sent up to the Public Health Laboratories in order that cultures might be made. In a certain number of cases the results were positive and warning having been issued to all hospitals, special precautions were taken to prevent the spread of this dangerous condition.

A *résumé* of this subject only can be given here. The organisms in twenty-two cases were reported from the Public Health Laboratories as having been shown after culture to be identical in morphological features with the Klebs-Löffler bacillus. And by exhaustive animal experimentation, four of these twenty-two cases were proved to have been actually caused by this organism. It is of course clear that time would not allow of more than four cases being subjected to the necessarily prolonged investigation required by modern bacteriologists for the complete proof of the nature of the organism as being actually the Klebs-Löffler bacillus causative of diphtheria.

One or two points stand out as certain from our recent experience. It is quite impossible on clinical grounds to state whether or not a case of membranous conjunctivitis is due to the diphtheria bacillus or not. Another equally important point is that microscopical examination with an oil immersion objective of a stained film of the conjunctival discharge is without importance as regards an exact diagnosis. In several cases in which animal experimentation fully showed that the condition of infection with the bacillus diphtheria was present a careful examination of the discharge only showed the presence of an organism resembling the gonococcus, the Koch-Weeks bacillus, etc.

3.—STATISTICS OF BLINDNESS.

(a) Blindness in Egypt.

The section in last year's Report may be consulted on this subject. During 1922, 17,374 persons who were blind in one or both eyes were seen at the hospitals, or 11·8 per cent of those examined. Table V is comparatively more than the number of blind persons due to double causes given for some binoculars.

TABLE IV.—YEARLY PERCENTAGES OF BLINDNESS AMONGST OPHTHALMIC HOSPITALS PATIENTS SINCE THE YEAR 1909.

YEAR.	Per Cent of Blindness in One or Both Eyes.	YEAR.	Per Cent of Blindness in One or Both Eyes.
1909	15·6	1916	11·2
1910	17·4	1917	13·9
1911	19·2	1918	14·6
1912	15·8	1919	15·3
1913	14·8	1920	13·8
1914	13·2	1921	12·2
1915	12·0	1922	11·8

Our definition of blindness is that proposed by Trousseau, that is to say inability to count fingers held up at a distance of 1 metre.

The pathological causes of blindness are given below. Trachoma is not an immediate cause of blindness and will not be found in the table, though obviously it may be a contributory cause especially where by its cicatrization entropion and consequent injury to the globe is caused.

TABLE V.—PATHOLOGICAL CAUSES OF BLINDNESS.

A.—Congenital	15
B.—Acquired :—	
I.—conjunctivitis resulting in :—	
(a) Total corneal opacity	4,758
(b) Shrunk globe	4,878
(c) Secondary glaucoma	3,220
(d) Other conditions	1,304
II.—Fundus :—	
(a) Optic atropy	251
(b) Retinitis pigmentosa	32
(c) Detachment of retina	54
(d) Various	170
III.—Glaucoma Primary :—	
Absolute monocular	924
Absolute binocular	1,044
IV.—Cataract	1,861
V.—Injury	196
VI.—Operation	62
VII.—Infectious disease... ..	16
VIII.—Iritis endogenous	328
IX.—Various	289
	19,402

(b) Statistical Enquiry on Blindness.

The first census in which information was asked for concerning disabilities was 1907. Enumerators were instructed to enter on the census schedule, details of the persons who were either totally blind or blind in one eye. This information was again asked for in 1917.

The details collected on the schedules were tabulated in the Government Statistical Department and the resulting tables published in the census reports of the respective years.

Table VI shows the proportion of persons per thousand of each sex who are either totally blind or blind in one eye for each governorate and Mudîriya in the country. This table has certain systematic features :—

- (i) The proportion of blindness is, generally speaking, less in governorates than in the Mudîriyas.
- (ii) The proportion of males suffering from blindness is greater than that of females, although the proportion of females totally blind is greater.
- (iii) The proportion of persons suffering from blindness in the Mudîriyas is least in the three most southerly ones, Girga, Qena, and Aswân.

The proportion of blindness is greatest in Faîyûm, a province that is, geographically, apart from the remainder of Egypt.

TABLE VI.—PERSONS PER 1,000 OF EACH SEX SUFFERING FROM BLINDNESS IN ONE OR BOTH EYES IN GOVERNORATES AND MUDIRÎYAS.

GOVERNORATE OR MUDIRIYA.	Blind in one eye.		Blind in both eyes.		Total persons afflicted with blindness.	
	Male.	Female.	Male.	Female.	Male.	Female.
Cairo	29	21	13	14	42	33
Alexandria	15	9	7	6	22	15
Canal	20	15	7	8	27	23
Suez	23	18	6	10	29	28
Damietta	17	14	11	13	28	27
Eastern Desert	16	15	10	16	26	31
Western Desert	22	7	10	10	32	17
Sinai	16	16	10	18	26	34
Beheira	42	29	10	14	52	43
Daqahliya	34	25	10	15	44	40
Gharbiya	41	31	11	16	52	47
Minûfiya	42	30	10	13	52	43
Qalyûbiya	36	24	11	13	47	37
Sharqîya	40	30	11	15	51	45
Aswân	21	15	14	15	35	30
Asyût	38	24	13	14	51	38
Beni Suef	48	30	11	12	59	42
Faîyûm	57	42	13	17	70	59
Girga	25	16	10	11	35	27
Gîza	38	23	12	12	50	35
Minya	51	37	11	14	62	51
Qena	24	16	10	11	34	27
Egypt	35	26	11	14	46	40

TABLE VII.—SHOWS THE PROPORTION OF THE POPULATION PER 1,000 OF EACH SEX, SUFFERING FROM BLINDNESS IN 1907 AND 1917.

	1907			1917		
	Male.	Female.	TOTAL.	Male.	Female.	TOTAL.
Blind in one eye	36	28	32	37	26	31
Blind in both eyes	12	14	13	11	13	12

These figures show a slight decrease in the proportion of blindness during intercensal period, but it should be borne in mind that the machinery of an ordinary census is not well-adapted to the collection of information regarding disabilities. It is difficult to define a disability in precise and non-technical terms and it is more difficult to ensure that the enumerator interprets the definition intelligently. There is also a general reluctance in most countries to admit disabilities, and census results in this respect are usually deficient.

TABLE VIII.—SHOWS THE PROPORTION OF BLINDNESS PER 1,000 OF EACH SEX BY RELIGION.

RELIGION.	BLIND IN ONE EYE.		BLIND IN BOTH EYES.		TOTAL.	
	Male.	Female.	Male.	Female.	Male.	Female.
Moslem	37·2	26·4	10·9	13·9	48·1	40·3
Christian	31·8	21·9	10·0	11·2	41·8	33·1
Jewish... ..	16·4	12·4	6·6	5·1	23·0	17·5

In each religion the proportion of blindness is higher among males than among females. The proportion of men totally blind is higher than that of females, among the Jews only.

The proportion of blindness is greatest among Moslems, being 4·8 per cent among the males and 4 per cent among females. The Christians population suffer far more than does the Jewish, whose figure is less than half that of the Moslem.

TABLE IX.—PROPORTION PER 1,000 OF EACH SEX SUFFERING FROM BLINDNESS PER AGE-GROUPS.

AGE GROUP.	BLIND IN ONE EYE.		BLIND IN BOTH EYES.	
	Male.	Female.	Male.	Female.
Under 1 year	2·8	1·4	0·7	0·8
From 1 to 4 years	11·2	6·9	2·3	1·9
„ 5 „ 9 „	20·3	13·2	3·6	3·0
„ 10 „ 19 „	31·3	20·3	5·1	4·8
„ 20 „ 29 „	40·8	24·1	6·9	6·1
„ 30 „ 39 „	48·7	33·9	8·5	9·1
Over 39 years	58·6	47·1	30·1	42·7

At all ages the percentage of males suffering from total blindness is greater than that of females. The figures for infants under one year are probably valueless. The greatest increase is between one to four years and five to nine years when the proportion is practically doubled, and afterwards the increase is steady. Total blindness increases to a striking extent after forty years of age.

4.—THE EGYPTIAN OPHTHALMIC HOSPITALS LABORATORY.

The advantage of such a laboratory was felt since the starting of these hospitals in 1904, but the heavy clinical labours of the staff prevented achieving this for some time. In 1913, however, laboratory work was first begun in Asyût Ophthalmic Hospital.

The laboratory now installed near Gîza Stationary Ophthalmic Hospital, in the suburbs of Cairo, receives material from all the different ophthalmic hospitals scattered in the provinces and from private clinics, a special circular is printed giving the methods of fixation adopted in the laboratory and special boxes are prepared for the dispatch of such parcels from and to the laboratory. The reports, received from the units, containing the history and description of the specimens are type-written in duplicate, one copy is

filed by the pathologist and the other is sent back to the unit concerned to be stuck to the patient's clinical notes and filed amongst the interesting cases. In urgent cases, the result is sent by telegram. The material varies, and the following list englobes the nature of the specimens :—

- (1) Tumours.
- (2) Excised globes.
- (3) Tarsi (excised).
- (4) Excised sacs (lacrymal).
- (5) Smears (including those sent for the diagnosis of spring catarrh). Diphtheria specimens are examined at the Department of Public Health Laboratories.
- (6) Microscopical examinations of secretions and excrements (urine, stools, blood, sputum, etc).
- (7) Investigations.
- (8) Globes of animals received from the Egyptian Veterinary School of Giza. This started in 1920 when the investigation of "Periodic Ophthalmia" in horses was undertaken for the discovery if this had a bacterial etiological factor. This investigation gave a negative result. An institute, such as this has been found of considerable benefit and here newly qualified men joining the Ophthalmic Section are required to attend for a month in October during the clinical courses, to learn the practical methods of special bacteriology and for instruction in the preparation of specimens for microscopical examination. These medical officers when sent to the different units in the provinces, are expected to be able to examine the smears of all cases of acute conjunctivitis and corneal ulcers and to prepare specimens for Giza Laboratory for further reports on their nature.

During the theoretical courses in April, attended by the same men, these are supplemented by lectures on the pathology of the subjects dealt with, as well as demonstrations of microscopical sections bearing to the same subjects.

As in other laboratories museum specimens are stocked and microscopical sections of special interest are kept for teaching and reference.

If one throws a glance on the statistical figures (*see* p. 106) interesting facts can be concluded. Out of twenty-seven lid specimens twenty are tumours, eleven of which are malignant. Out of fifty-four specimens of diseases of the conjunctiva three only are malignant tumours and fifteen are degenerative inflammations such as hyaline and amyloid. Malignant tumours of the cornea are nil. The diseases of the iris and ciliary body are mostly inflammatory. The only tumour of the choroid reported this year was a very rare one, simple angioma of a benign nature. Malignant tumours of the retina and orbit are not infrequent. An interesting fact in inflammation of the sac, a good number of these show microscopical picture similar to trachoma of the conjunctiva. Out of fifty-four specimens in which spring catarrh was suspected clinically, only eleven are positive.

5.—OPHTHALMIC INSPECTION AND TREATMENT AT THE GOVERNMENT PRIMARY SCHOOLS.

A.—1921-1922.

The ophthalmic clinics which have been established at sixteen of the Primary Schools of the Ministry of Education are effecting a remarkable change in the condition of the eyes of the pupils. It is well known now, thanks to the careful statistical work which has been carried out during the last fifteen years by the Ophthalmic Section of the Department of Public Health, that an average of 90 per cent of the pupils in all the schools show evidence on expert examination of trachoma either in its active form or in a cured or partially cured form. It must be insisted on that such statistics can only be correctly made by an ophthalmic surgeon of experience working under high professional supervision and according to a carefully arranged plan.

But in these reports on the ophthalmic progress of Egypt it has always been stated that the inspection of the pupils and the compilation of statistics is valueless unless

combined with an adequate system of treatment. It may also be stated that the examination of a large number of pupils for the purpose of detecting whether or not they have trachoma (this entails manipulation of the eyelid in order to see its under-surface); in the hands of a medical officer who is not an ophthalmic expert is a very serious danger to all the pupils and especially to those who are still unaffected with any eye disease, owing to the danger of infecting them.

There appears to be, even in some medical quarters, an idea that all that is required in running a school ophthalmic clinic is for the medical officer to see whether or not the pupil has granulations or cicatrices signicative of trachoma, and perhaps to order drops to be used by some of the pupils. But the diagnosis of trachoma is a much more difficult matter than this.

Treatment of trachoma is the work of an expert. It entails the danger if carried out by a medical officer who is not an ophthalmic surgeon, of infecting healthy pupils, and of doing serious damage to the eye, which may result in irreparable loss of sight. To be of the slightest benefit the eyelids must be everted with full antiseptic precautions, and a powerful drug applied to the whole of the conjunctiva.

In the sixth Annual Report of the Ophthalmic Section (1918), it was stated that the application of antiseptic drops alone seemed to have had the effect of causing a real improvement among the trachomatous pupils of Faîyûm School, but that this required corroboration. It must now be stated that while it was perfectly true that these pupils did improve, it was because such a large number of them went to the local ophthalmic surgeon at his private clinic for more effective treatment, and not because the mere instillation of drops was entirely effective.

No easy method of curing trachoma has yet been discovered although experiments are still being carried on with a view to reduce, if possible, the interference of the Ophthalmic Surgeon.

The danger of acute ophthalmias (*ramad el sadidi el had*) is always present in the spring and autumn of each year with the responsibility of advising on the condition and its treatment.

The testing of the visual acuity of all the pupils and the prescription of spectacles is obviously the business of an expert.

Besides the difficulty of keeping careless pupils supplied with spectacles which are constantly breaking, the constantly altering astigmatism caused by the changing curvature of the cornea due to trachoma is a difficult matter to deal with, as when cylindrical glasses are ordered to correct this, they not infrequently have to be changed after some months.

Ophthalmic inspection and treatment are carried out at the present time by the Ophthalmic Section of the Department of Public Health at the primary schools shown below :—

Cairo.—Husseiniya, Muhammad Aly.

Alexandria.—Râs el Tin, Moharram Bey.

Provinces.—Tanta, Asyût, Mansûra, Beni Suef, Zagazig, Damanhûr, Shibîn el Kôm, Sohâg, Minya, Faîyûm, Benha, Gîza, Qena (will be commenced in next school session 1922-1923).

The work is carried out as a part time job at the request of the Ministry of Education and the charge is borne by the budget of the Department of Public Health and shown as services rendered to the Ministry of Education. It is therefore not an additional charge on the budget of the Ministry of Education. The sum at the present time is L.E. 545. The medical staff who carry out the work do not get any payment for their labours at the schools. The work is carried on cheerfully by them in addition to their present exhausting hospital work, as they know that it is of value to their country and also that the fatiguing work of inspection is carried out by the inspectors without extra pay.

The only advantage which any one has been able to find as accruing to the ophthalmic staff is that they get an experience of trachoma in all its stages, and that it is possible to study and treat the disease with greater care than in the crowded out-patient departments of ophthalmic hospitals.

There can be no doubt that the present arrangement whereby the ophthalmic work is carried out by the Department of Public Health is very much better for the pupils than if carried on by medical officers of the Ministry of Education. It is also certainly very much more economical.

If an extension of the present system of ophthalmic treatment to other primary schools in Cairo by the Department of Public Health is desired an estimate of the cost can be prepared. All such work would have to be carried out gradually, and certain groups of neighbouring schools should be first undertaken such as Abdîn, Qerabîya, Muham-madîya, Munîra.

The utility of the clinics is shown by the reduction of the more serious stages of trachoma from 62 per cent at Tanta in 1907, to an average of 10 per cent at all the schools at the present time.

It is claimed that although this may be in some degree a natural process, it is partly the result of the careful and systematic treatment which has been carried out by the ophthalmic surgeons.

It is to be noted that all methods of treatment which entail manipulation of the eyelid, of the patient, as in the application of drugs to the lining membrane of the upper lid are carried out by fully qualified surgeons and not by male or female hospital attendants.

It has been previously pointed out that trachoma appears to be closely related to the age of the pupils, the more serious stages being common in the first school year and less common in the fourth year. This is the result of the gradual process of cicatrisation which the life history of the disease manifests. These serious stages diminish from approximately 42 per cent in the first year, 26 per cent in the second year, 17 per cent in the third year to 16 per cent in the fourth year.

Spectacles have been ordered for a total of 321 pupils who are now in the schools during this and previous years. On the day of the general inspection, 215 pupils were wearing their correction, 75 pairs of spectacles were on order or under repair while thirty-one pupils were not wearing their glasses either because they did not like them or because they had forgotten them at home.

It is a matter of great importance to note that 36 per cent of the pupils have insufficiently good vision to enable them to attain to the very low visual standard demanded for candidates to the ranks of the pensionable civil service ($6/12$ and $6/12$ or $6/6$ and $6/18$). This defect of vision can only in certain cases, be corrected by spectacles: 137 pupils were enabled to attain to the Government standard, while 184 pupils who were refracted under atropin failed to reach this degree of vision.

The deficient vision is due, in a large number of cases, to corneal opacity (11 per cent of all the pupils have an opacity in one or both corneæ); this opacity in some cases is due to cicatrization after ulceration, and in other cases to trachomatous pannus. In yet other cases to ametropia, frequently astigmatic.

B.—1922-1923.

The schools treated were the Government Primary Schools of Tanta, Asyût, Mansûra, Beni Suef, Zagazig, Damanhûr, Shibîn el Kôm, Sohâg, Minya, Faîyûm, Gîza, Benha, Moharram Bey, and Râs el Tîn at Alexandria, Husseinîya and Muhammad Aly at Cairo. Thus all the primary schools in the Mudîrîya towns in which there is an ophthalmic hospital are provided with proper inspection and treatment. The hospital at Qena was delayed in completion and has only just been opened: the ophthalmic work in the primary school at this town will be commenced in October. There is as yet no permanent hospital at Aswân town, the province being served by a travelling hospital which only spends part of the year at Aswân town. Until a permanent hospital is built (the principle of building one is accepted by the Government), it is impossible to undertake the work.

Arrangements are also in force for the treatment of the pupils of the secondary schools at Tanta and Asyût who require it. However, with the advance in the age of the pupils. However as has been shown in these Reports, there is much less necessity for regular treatment among the secondary schools students than among these of the primary schools.

No further extension of ophthalmic treatment in the schools of Cairo or Alexandria or inauguration in the elementary schools (*kuttab*s or *maktab*s) can be carried out without an increase of staff and the elapse of the period necessary for training the new medical officers in ophthalmic work.

The percentage of the pupils inspected who were found to show evidence of past or present trachoma was almost exactly 90 per cent. It has been explained in these Reports on various occasions during the last fifteen years that the methods of treatment used were of an experimental nature. During the last year, seven different forms of treatment were being carried out at different groups of schools with a view to discovering what form was the most satisfactory, considering the amount of time at the disposal of the school

medical officer. There is clearly no doubt that in places where a large number of persons are in need of treatment, methods must be used which are applicable to large numbers. For instance where a medical officer has to apply active treatment to 120 pupils between the hours 3 p.m. to 4 p.m. a very different scheme may have to be adopted to that which a specialist would apply in his private consulting room. However, it is almost invariably the case that the successful private practitioners of Egypt adopt the same methods of treatment as those carried out as a routine at the ophthalmic hospitals and at the school ophthalmic clinics. It is owing to the close observation which has been possible in these school clinics that a great advance in our experience has been gained. The treatment of trachoma among private patients and among hospital patients is unsatisfactory because the patients are inclined to stop their treatment if they get a little better, or if the treatment is uncomfortable, while at the schools the patients are continuously under observation.

The methods of treatment which have been adopted depend on the various stages of trachoma.

Instructions for carrying out Clinical Work at Schools.

(1) *The treatment of Conjunctivitis.*

(a) Acute conjunctivitis should be treated by silver nitrate 2 per cent solution and constant wash with ordinary surgical eusol or potassium permanganate solution 1 in 5,000, which is to be used at the ophthalmic room under the superintendence of the school *tamurgi* (hospital attendant).

(b) Angular conjunctivitis and blepharitis: painting the conjunctiva of the lids with AgNO_3 2 per cent solution especially the border of lids; yellow oxide of mercury ointment to lid margins.

(2) *The Treatment of Trachoma.*

(Ti) By copper sulphate 3 per cent drops applied twice a day, or by silver nitrate 2 per cent solution applications when there is discharge. Copper sulphate 10 per cent painting may be used when advisable.

(Tiia) By rupturing the follicles after cocainization (at the school ophthalmic room) with Graddy's forceps. No scraping with a spoon is to be done. Undue force should not be used and endeavour should be made to cause as little bleeding as possible: this mechanical treatment may require several applications. A bottle of eusol and some cotton wool should be given to each pupil after mechanical treatment. This should be followed by HgCL_2 one per cent solution applied to the conjunctiva firmly with a glass rod and cotton wool for 10 applications. During this time further mechanical treatment may be applied if there are still follicles unruptured. After every mechanical treatment a period of at least five days HgCL_2 rubbing should be applied.

After this CuSO_4 drops 3 per cent should be given until cicatrization is complete.

(Tiib') Try effect of mechanical treatment as above. If without benefit advise combined excision.

(Tiib'') Palliatives or combined excision.

(Tiic) Silver nitrate solution 2 per cent.

(Tiii) CuSO_4 3 per cent drops or painting with CuSO_4 solution 10 per cent Foci of post trachomatous degeneration are to be incised after cocainization; this is part of mechanical treatment.

It is to be particularly noted that mechanical treatment is not an operation and no permission from the parents is required. If any pupil however, refuses to undergo the treatment, the parent should be communicated with through the headmaster to obtain his insistence on the treatment.

As an instance of the improvement that has taken place a comparison may be made between the condition of the corneæ of the pupils at Tanta Primary School in 1913 and in 1923.

TABLE X.—COMPARISON OF CORNEAL OPACITY AMONG PUPILS OF TANTA PRIMARY SCHOOL IN THE YEARS 1913 AND 1923.

YEAR.	Both Corneæ Clear.	One Cornea clear the other showing opacity.	Opacity of both corneæ.
1913	182	74	126
1923	512	41	25

This improvement is a most remarkable one.

During the present school year the serious stages of trachoma (1 and 2) amounted to 32·3 per cent. This was reduced by treatment to 14·5 per cent by the end of the treatment session. This percentage is worked out from a total of 6,140 pupils under observation at the schools dealt with.

6.—HOSPITAL STATISTICS.

TABLE XI.—SYNOPSIS OF WORK OF HOSPITALS SINCE 1919.

	1919	1920	1921	1922
Hospitals in existence :—				
Travelling	5	5	5	5
Permanent	13	15	16	16
New patients treated	76,525	94,921	113,201	133,750
Total attendances of out-patients	906,961	1,064,509	1,322,074	1,510,020
Operations performed	49,974	56,503	65,378	76,035
In-patients	3,613	4,232	4,513	4,798
Details :—				
Patients examined	83,577	108,113	127,223	147,492
Patients regularly treated	76,525	94,921	113,201	133,750
Incurable cases	4,467	6,400	6,727	6,582
Blind in one eye... ..	8,537	9,833	10,566	12,524
Blind in both eyes	4,278	5,154	5,053	4,850
Trichiasis cases examined	20,052	23,154	28,245	32,720
„ eyes operated on and cured	24,611	27,081	28,939	30,869

TABLE XII.—WORK DONE AT ALL OPHTHALMIC HOSPITALS DURING 1922.

1. IN-PATIENTS : TOTAL NUMBER	4,798
(Number of available beds 286)	
Number of diets issued	95,032
2. OPERATIONS :—	
I. Major :—	
(a) Senile cataract	641
(b) Soft cataract	240
(c) Trichiasis or entropion	30,869
(d) Other operations	7,942
TOTAL	39,692
II. Minor	36,343
GRAND TOTAL	76,035
3. OUT-PATIENTS :—	
I. Incurable	4,457
II. Postponed	9,285
III. Tickets issued, <i>i.e.</i> new cases	133,750
IV. Old cases	1,362,528
V. Visits made by patients to hospital for treatment (equal I+II+III+IV)	1,510,020
VI. Average number of visits made to hospital by patient under regular treatment (old cases+tickets issued) ÷ tickets issued. The factor of incurable cases is neglected	11.2
VII. Discharges :—	
(a) Cured	17,792
(b) Relieved	3,917
(c) Incurable	2,125
(d) Spontaneously ceased to attend after having attended only once...	25,734
(e) Spontaneously ceased to attend after having attended more than once	68,183
VIII. Trichiasis cases seen among new out-patients :—	
(a) No previous operation having been performed	25,712
(b) Previous operation performed :—	
i. Successfully	4,453
ii. Unsuccessfully (not at an Ophthalmic Hospital, but probably by some charlatan)	2,555
IX. Spectacles ordered	477
X. General anæsthetics	4,735
XI. Constant wash cases (number of days' treatment)	272,689
XII. Ages of patients examined :—	PER CENT.
Under one year	5.68
From 1 to 5 years	14.03
" 6 " 10 "	11.50
" 11 " 15 "	10.54
" 16 " 20 "	7.29
" 21 " 25 "	7.63
" 26 " 30 "	8.31
" 31 " 35 "	7.94
" 36 " 40 "	6.79
" 41 " 45 "	5.54
" 46 " 50 "	4.27
" 51 " 55 "	2.95
" 56 " 60 "	2.77
" 61 " 65 "	2.17
" 66 " 70 "	1.22
Over 70 years	1.36
TOTAL	133,750
XIII. Origin of patients :—	
Patients from :—	
(a) Town in which hospital is situated	53,093
(b) Markaz in which hospital is situated	47,946
(c) Other Markazes	32,711
TOTAL	133,750

N.B.—3. I. Incurable cases do not receive tickets, but are recognized as soon as seen by the surgeon as both incurable and devoid of surgical interest.

VII. (c) Incurable cases include those which are recognized as soon as seen by the surgeon as incurable but are given tickets for statistical or other purposes.

Keratitis, interstitial	22
" trachomatous	244
Nebula or leucoma	43,995
Adherent leucoma	7,603
Totally opaque cornea	4,758
Staphyloma	1,772
Xerosis of cornea	414
Abscess of cornea	71
Conical cornea	288
Injuries (burn, foreign bodies, etc.)	278

Tumours
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14

[illegible][illegible][illegible][illegible][illegible][illegible]

TABLE XIII.—LIST OF DISEASES (*continued*).

<i>Lens (continued) :—</i>															
Cataract anterior polar	...	...	...	...	...	...	...	...	...	...	...	...	...	...	558
„ posterior „	...	...	...	...	...	...	...	...	...	...	...	...	...	...	24
„ dislocated, traumatic	...	...	...	...	...	...	...	...	...	...	...	...	...	...	105
„ „ operative	...	...	...	...	...	...	...	...	...	...	...	...	...	...	33
„ „ congenital	...	...	...	...	...	...	...	...	...	...	...	...	...	...	5
Aphakia	...	...	...	...	...	...	...	...	...	...	...	...	...	...	374
Secondary cataract	...	...	...	...	...	...	...	...	...	...	...	...	...	...	175
Ectopia lentis	...	...	...	...	...	...	...	...	...	...	...	...	...	...	—
<i>Vitreous :—</i>															
Opacities	...	...	...	...	...	...	...	...	...	...	...	...	...	...	112
Foreign bodies	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2
<i>Muscles :—</i>															
Strabismus, alternating	...	...	...	...	...	...	...	...	...	...	...	...	...	...	369
„ convergent	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2,037
„ divergent	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2,522
Heterophoria	...	...	...	...	...	...	...	...	...	...	...	...	...	...	18
Nystagmus	...	...	...	...	...	...	...	...	...	...	...	...	...	...	558
Paralysis	...	...	...	...	...	...	...	...	...	...	...	...	...	...	11
<i>Glaucoma :—</i>															
Primary, acute	...	...	...	} Including absolute glaucoma caused by acute, sub-acute or chronic glaucoma. {		}									39
„ sub-acute	...	...	...												97
„ chronic	...	...	...												2,376
Secondary	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3,664
<i>Globe :—</i>															
Shrunken globe	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4,878
Buphthalmos	...	...	...	...	...	...	...	...	...	...	...	...	...	...	34
Exophthalmic goitre	...	...	...	...	...	...	...	...	...	...	...	...	...	...	—
Panophthalmitis	...	...	...	...	...	...	...	...	...	...	...	...	...	...	237
Microphthalmos...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	16
Anophthalmos	...	...	...	...	...	...	...	...	...	...	...	...	...	...	66
Injury	...	...	...	...	...	...	...	...	...	...	...	...	...	...	109
Exophthalmos	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
<i>Orbit :—</i>															
Tumours	...	...	...	...	...	...	...	...	...	...	...	...	...	...	17
Cellulitis	...	...	...	...	...	...	...	...	...	...	...	...	...	...	9
Tenonitis	...	...	...	...	...	...	...	...	...	...	...	...	...	...	—
Periostitis	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3
Injuries	...	...	...	...	...	...	...	...	...	...	...	...	...	...	5
Cyst, frontal	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2
„ ethmoidal	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4
Contracted socket	...	...	...	...	...	...	...	...	...	...	...	...	...	...	24
Fly-blown	...	...	...	...	...	...	...	...	...	...	...	...	...	...	9
<i>Blind : —</i>															
In one eye	...	...	...	...	...	...	...	...	...	...	...	...	...	...	12,524
In both eyes (1)	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4,850

⁽¹⁾ Patients are accounted blind who cannot count fingers at one metre.

TABLE XV.—PATHOLOGICAL REPORT (*contd.*)

	Brought forward...	91
LIMBUS :—		
Tumours :—		
Benign including cysts	...	6
Malignant	...	1
CORNEA :—		
Wounds	...	7
Inflammation including ulceration	...	1
Tumours : Benign...	...	4
SCLEROTIC :—		
Wounds	...	5
Inflammation...	...	1
IRIS AND CILIARY BODY :—		
Inflammation...	...	18
LENS :—		
Cataract	...	1
CHOROID :—		
Degeneration including ossification	...	3
Tumours : Benign...	...	1
RETINA :—		
Inflammation...	...	1
Tumours : Malignant	...	5
ORBIT :—		
Tumours :—		
Inflammation...	...	3
Benign including cysts	...	1
Malignant	...	5
LACRIMAL GLAND :—		
Tumours, Benign including cysts	...	2
LACRIMAL SAC :—		
Inflammation...	...	32
GLAUCOMA :—		
Primary	...	6
Secondary :—		
Anterior synechia or adherent leucoma	...	142
Inflammation (irido-cyclitis, etc.)	...	6
SYMPATHETIC OPHTHALMIA...	...	1
PHTHISIS BULBI :—		
Inflammation...	...	34
Post operative	...	1
UNCLASSIFIED	...	6
UNDETERMINED	...	20
	Carried forward...	404

TABLE XV.—PATHOLOGICAL REPORT (*contd.*)

EXAMINATION OF CELLS :—																		
Eosinophilia :—																		11
Positive ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	37
Negative...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	6
Undetermined	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
OTHER ANIMALS (Horses, Mules, and Donkeys) :—																		2
Diseased ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	58
Normal ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
TOTAL... ..																		518

TABLE XVI.—WASSERMANN TESTS.

Positive ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	36
Doubtful ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	7
Negative ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	59
Unfit ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	15
TOTAL... ..																			117

TABLE XVII.—NUMBER OF PATIENTS TREATED AND OPERATIONS PERFORMED AT THE OPHTHALMIC HOSPITALS DURING 1922.

HOSPITALS.	NUMBER OF PATIENTS.	HOSPITALS.	NUMBER OF OPERATIONS
No. 1 Rôd el Farag	12,400	No. 1 Rôd el Farag	7,031
No. 2 S.O.H. Gîza	11,965	Tanta	6,633
Tanta	8,889	No. 2 S.O.H. Gîza	5,655
Asyût	8,317	No. 3 T.O.H.	4,681
Port Said	7,296	Asyût	4,479
Beni Suef	6,602	Benha	4,105
Alexandria	6,432	Sohâg	3,651
No. 3 T.O.H.	6,290	Asyût P.C.T.O.H.	3,597
Faîyûm	6,220	Minya	3,391
Minya	6,089	Beni Suef	3,293
Asyût P.C.T.O.H.	5,921	Mansûra	3,233
Sohâg	5,870	Shibîn el Kôm	3,196
Benha	5,815	Daqahliya P.C.T.O.H.	3,139
Mansûra	5,518	Faîyûm	3,000
Zagazig	5,224	Zagazig	2,755
Shibîn el Kôm	5,202	Alexandria	2,633
Mahalla el Kubra	4,838	Mahalla el Kubra	2,449
Daqahliya P.C.T.O.H.	4,831	Santa	2,432
Damanhûr	4,076	Kafr el Zaîyât	2,284
Kafr el Zaîyât	2,994	Damanhûr	2,216
Santa	2,961	Port Said	2,182

N.B.—Number of working days :—

No. 3 T.O.H.	10 $\frac{3}{4}$	months.
Asyût P.C.T.O.H.	10 $\frac{1}{7}$	"
Daqahliya P.C.T.O.H.	9 $\frac{3}{4}$	"
Other Hospitals	12	"

TABLE XVIII.—AVERAGE NUMBER OF OPERATIONS PER MONTH AT ALL
OPHTHALMIC HOSPITALS DURING 1922.

HOSPITALS.	MAJOR.	HOSPITALS.	MINOR.
No. 1 Rôd el Farag	271	Tanta	390
No. 2 Stationary Gîza	247	No. 1 Rôd el Farag	315
Asyût	211	No. 3 Travelling... ..	257
Beni Suef	192	No. 2 Stationary Gîza	224
Sohâg	185	Daqahliya Travelling... ..	185
Benha	184	Asyût Travelling... ..	177
No. 3 Travelling... ..	179	Asyût	162
Asyût Travelling... ..	177	Benha	158
Zagazig	167	Minya	122
Faîyûm... ..	167	Mansûra	119
Tanta	163	Sohâg	119
Minya	161	Shibîn el Kôm	116
Mansûra	151	Mahalla el Kubra	105
Shibîn el Kôm	151	Alexandria Branch	104
Daqahliya Travelling... ..	137	Port Said	98
Santa	130	Kafr el Zaîyât	87
Alexandria Branch	116	Faîyûm... ..	83
Damanhûr	105	Beni Suef	82
Kafr el Zaîyât	104	Damanhûr	79
Mahalla el Kubra	99	Santa	73
Port Said	84	Zagazig... ..	63

TABLE XIX.—NEW PATIENTS TREATED ACCORDING TO THE AGE AT WHICH THEY
SOUGHT TREATMENT.

Age.	No. of Patients.
Under one year	7,597
From 1 to 5 years	18,763
„ 6 to 10 years	15,388
„ 11 to 15 „	14,094
„ 16 to 20 „	9,751
„ 21 to 25 „	10,203
„ 26 to 30 „	11,110
„ 31 to 35 „	10,623
„ 36 to 40 „	9,081
„ 41 to 45 „	7,413
„ 46 to 50 „	5,719
„ 51 to 55 „	3,943
„ 56 to 60 „	3,703
„ 61 to 65 „	2,912
„ 66 to 70 „	1,628
Over 70 years	1,822
TOTAL	133,750

TABLE XX.—NEW PATIENTS TREATED PER MONTH.

January	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	5,465
February	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	6,653
March	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	7,938
April	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	11,139
May...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	9,488
June	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	16,365
July...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	16,008
August	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	13,259
September	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	14,137
October	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	14,151
November	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	11,553
December	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	7,594
TOTAL...																				133,750

TABLE XXI.—AVERAGE TEMPERATURE.

The average temperature was arrived at by taking one place in Lower Egypt (Qurashîya), one place in Cairo (Gîza), and one place in Upper Egypt (Asyût) and obtaining an average figure from the mean temperature at each place on each month. This is shown in appended table, the readings being in degrees centigrade.

MONTH.	Qurashîya.	Giza.	Asyût.	Average.
January	10·6	11·3	11·8	11·2
February	12·1	12·9	13·9	13·0
March	14·7	15·5	17·6	15·9
April... ..	18·1	19·4	23·0	20·2
May	21·2	22·2	26·4	23·3
June	25·1	25·4	28·6	26·4
July	27·4	27·3	30·9	28·5
August	26·6	26·8	29·4	27·6
September	24·2	24·4	27·2	25·3
October	21·8	22·0	24·2	22·7
November	17·5	18·4	19·7	18·5
December... ..	10·8	11·2	12·0	11·3

TABLE XXII.—CONJUNCTIVAL MICRO-ORGANISMS FOUND DURING 1922.

ORGANISMS.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	TOTAL.
Gonococcus	156	120	151	502	810	1,457	1,602	1,280	1,387	1,632	1,540	668	11,305
Koch-Weeks	154	139	167	611	592	807	776	450	480	564	449	232	5,421
Morax-Axenfeld ...	49	75	105	118	150	145	136	136	123	150	131	98	1,416
Pneumococcus	9	6	10	19	33	26	40	28	26	42	43	19	301
Xerosis	11	6	5	14	17	9	30	16	24	17	32	27	208
Staphylococcus	—	—	—	—	1	1	1	—	1	—	1	—	5
Micrococcus	—	—	—	—	—	—	—	—	—	2	—	—	2
Streptococcus	—	1	—	—	2	1	1	—	2	—	1	—	8
Other organisms ...	14	8	27	23	24	26	30	41	36	37	17	12	295
TOTAL	393	355	465	1,287	1,629	2,472	2,616	1,951	2,079	2,444	2,214	1,056	18,961
Negative	75	76	91	148	199	255	260	233	259	267	341	175	2,379
GRAND TOTAL ...	466	431	556	1,435	1,828	2,727	2,876	2,184	2,338	2,711	2,555	1,231	21,340

TABLE XXIII.—BLINDNESS AMONG OUT-PATIENTS SINCE 1909.

YEAR.	TOTAL NUMBER OF PATIENTS EXAMINED.	ONE EYE.		BOTH EYES.		ONE EYE AND BOTH EYES.	
		Number.	Per Cent.	Number.	Per Cent.	Number.	Per Cent.
1909	22,373	2,116	9·4	1,385	6·1	3,501	15·6
1910	25,506	2,438	9·5	2,010	7·8	4,448	17·4
1911	31,274	3,196	10·2	2,811	8·9	6,007	19·2
1912	43,668	4,115	9·4	2,824	6·4	6,939	15·8
1913	62,233	5,360	8·6	3,878	6·2	9,238	14·8
1914	75,398	6,425	8·5	3,591	4·7	10,016	13·2
1915	71,930	5,637	7·8	2,992	4·2	8,629	12·0
1916	94,447	7,042	7·4	3,504	3·7	10,546	11·2
1917	100,410	9,385	9·3	4,611	4·6	13,996	13·9
1918	90,668	8,969	9·9	4,261	4·7	13,230	14·6
1919	83,577	8,537	10·2	4,278	5·1	12,815	15·3
1920	108,113	9,833	9·1	5,154	4·7	14,987	13·8
1921	127,223	10,566	8·3	5,053	3·9	15,619	12·2
1922	147,492	12,524	8·5	4,850	3·3	17,374	11·8
TOTAL	1,084,312	96,143	8·9	51,202	4·7	147,345	13·6

TABLE XXIV.—TOTAL PERCENTAGE OF BLINDNESS IN ONE OR BOTH EYES.

	1919	1920	1921	1922
	Per Cent.	Per Cent.	Per Cent.	Per Cent.
<i>Permanent Hospitals :—</i>				
Tanta	12·05	7·82	9·78	8·78
Asyût	20·7	19·05	16·5	14·32
Mansûra	18·2	17·70	19·3	18·79
Beni Suef	18·9	16·40	17·07	17·55
Zagazig	19·6*	17·76	11·1	11·58
Damanhûr	10·8	9·2	9·77	9·49
Shibîn el Kôm	8·2	6·3	9·09	9·06
Sohâg	13·9	16·3	16·16	13·74
Minya	20·6	19·8	19·85	19·04
Faîyûm	17·7	12·36	11·1	14·17
Benha	—	9·6	7·4	9·67
Alexandria	—	10·7	9·7	9·67
Aswân (Oph. Branch)	—	—	14·6	—
Port Said	—	—	6·13	3
Mahalla el Kubra	12·5	10·4	9·2	8·65
Kafr el Zaîyât	11·4	10·93	10·88	9·34
Santa	15·6	13·84	12·63	12·55
<i>Travelling Hospitals :—</i>				
No. 1 Travelling :—				
Aswân	22·7	—	—	—
Idfu	—	24·16	—	—
Damietta	—	14·3	—	—
Rôd el Farag	—	16·86	14·35	12·3
No. II Stationary :—				
Gîza	8·4	14·73	13·09	13·03
No. III Travelling :—				
Barrage	16·5	15·25	—	—
Port Said	—	11·12	—	—
Nag Hammâdi... ..	—	9·42	4·1	—
Aswân	—	—	20·26	16·36
Luxor	—	—	—	8·9
Asyût Travelling :—				
Manfalût	—	—	6·46	—
Deirût	—	14·22	—	—
Mallawi	—	20·0	—	9·7
Abnûb	—	15·27	14·6	—
Abu Tîg	17·9	—	9·8	14·1
Badâri	10·5	—	—	6·22
Daqahliya Travelling :—				
Mit-Ghamr	15·3	18·5	—	9·6
Matarîya	15·2	—	8·95	—
Dikirnis	—	—	11·1	—
Fariskûr	13·9	—	—	10·18
Aga	—	16·56	—	—
Simbillawein	—	15·58	12·32	20·29

* Increased owing to E.L.C. patients.

TABLE XXV.—SOURCES OF PROVISION OF HOSPITALS.

HOSPITALS.	Date at which opened.	Government Grant.	Public Subscription or Private Benefaction.	Provincial Councils or Municipality.
		L.E.	L.E.	L.E.
No. 1 Travelling*	1904	—	1,000	—
No. 2 Camp†	1905	—	—	1,500
Tanta	1908	8,463	—	—
Asyût	1911	8,817 and site	5,004	—
Mansûra	1912	—	5,000	—
Beni Suef	1912	—	4,000	—
Asyût Travelling	1912	—	—	720
Zagazig	1913	—	—	4,286
Mahalla el Kubra... ..	1913	—	—	2,400
Kafr el Zaïyât	1913	—	—	2,200
Daqahliya Travelling	1913	—	—	720
Damanhûr	1914	—	—	5,000
Shibîn el Kôm	1914	—	5,422	—
Sohâg	1914	960	4,000	—
Minya	1915	—	—	5,500
Santa	1915	—	—	2,600
Faïyûm	1916	Site.	—	4,000
No. 3 Travelling‡	1918	—	1,000	—
Benha	1920	—	14,000	—
Port Said... ..	1921	1,000	—	1,000
Qena §	—	—	12,400	2,800
Gîza §	—	Site.	6,300	600
TOTAL		19,240	58,126	33,326

* Retained in Cairo for provision of clinical facilities for teaching.

† Stationary at Gîza until completion of Giza Permanent Ophthalmic Hospital.

‡ For South Egypt, Luxor to Aswân, until Aswân Permanent Hospital is completed.

§ Under construction.

7.—EXPENDITURE STATISTICS.

TABLE XXVI.—ACTUAL EXPENDITURE.—(A) CENTRAL ADMINISTRATION, 1921-1922.

CHAPTER.	Grant.	Total actual Expenditure.
	L.E.	L.E.
Pensionable staff	7,394	5,546
Hors cadre staff	313	284
Allowances :—		
Ophthalmic allowance	216	135
Compensation allowance	48	48
Transport, transfer, and travelling allowance :—		
Inspection allowance	384	288
Consolidated allowance	58	55
Transfer	40	4
Travelling allowance	300	262
Transport	600	428
Books and periodicals	30	30
Telephone	12	12 *
Telegrams	30	7
Petty expenses	20	3
TOTAL... ..	9,445	7,102 †

* Excluding trunk line calls.

† This figure is very low owing to two posts of divisional inspectors were vacant the whole year of 1921, one of which to cover the extra expenses of a Medical Officer during his educational mission in England.

TABLE XXVII.—ACTUAL EXPENDITURE.—(B) GOVERNMENT OPHTHALMIC HOSPITALS, 1921-1922.

CHAPTER.	Grant.	Total Actual Expenditure.
	L.E.	L.E.
Pensionable staff	9,374 *	8,205
Hors cadre staff	7,128	6,728
Ophthalmic allowance	1,896 †	1,349
Transport, transfer and travelling allowance	1,693	1,941
Food	4,954	5,040
Forage	51	43
Water	265	236
Light	180	149
Disposal of sewage	100	43
Heating	— ‡	946
Rent	100	65
Telegrams and telephones	165	120
Stores :—		
General equipment	}	3,927
Surgical equipment		107
Instruments		690
Drugs		1,491
Dressings		371
Transport of stores		159
Books and periodicals	12	12
Petty expenses (including move of Travelling Camps)	598	573
TOTAL... ..	—	32,19 5§

* To this L.E. 201 is granted by the Government for the salary of a medical officer of Daqahliya Provincial Council Travelling Ophthalmic Hospital which is recovered from the said Council.

† To this L.E. 72 is granted by the Government for the Ophthalmic allowance of the M.O. of Daqahliya Provincial Council Travelling Ophthalmic Hospital which is recovered from the said Council.

‡ No special grant for the ophthalmic hospitals. The grant is for the various units of the whole Department.

§ Excluding repairs being omitted as the credit is at the disposal of the Public Works Ministry and no return is made.

TABLE XXVIII.—ACTUAL EXPENDITURE.—(B) GOVERNMENT OPHTHALMIC HOSPITALS (PER UNIT), 1921-1922.

CHAPTER.	No. 1, T.O.H.	No. 2, S.O.H.	No. 3, T.O.H.	Tanta	Asyût.	Mansûra.	Beni Suef.	Zagazig.	Damanhûr.	Shibîn el Kôm.	Sohâg.	Minya.	Falyûm.	Benha.	Alexandria Oph. Branch and School.	Port-Said.	Cairo Schools.	Suez.	Damietta.	TOTAL.
	L.E.	L.E.	L.E.	L.E.	L.E.	L.E.	L.E.	L.E.	L.E.	L.E.	L.E.	L.E.	L.E.	L.E.	L.E.	L.E.	L.E.	L.E.	L.E.	L.E.
Pensionable staff	565	527	334	845	744	578	487	475	422	490	419	536	337	517	346	277	134	89	83	8,205*
Hors cadre staff	435	635	406	460	514	425	433	416	379	451	475	431	388	421	145	265	49	—	—	6,728*
Ophthalmic allowance	147	131	109	128	138	72	60	72	34	68	58	69	42	78	72	—	36	18	17	1,349
Transport, transfer and travelling allowance	242	179	412	98	259	9	83	97	51	94	81	63	15	68	23	100	11	39	17	1,941
Food	251	283	279	347	484	497	397	349	337	469	333	365	240	409	—	—	—	—	—	5,040
Forage... ..	6	34	—	—	3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	43
Water	10	—	15	41	50	12	27	16	32	—	—	—	—	33	—	—	—	—	—	236
Light	—	—	—	35	40	33	41	—	—	—	—	—	—	—	—	—	—	—	—	149
Disposal of sewage	—	—	—	1	—	—	—	12	—	—	—	1	29	—	—	—	—	—	—	43
Heating	38	1	27	100	106	55	98	100	114	3	86	7	106	101	—	4	—	—	—	946
Rent	55	—	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	65
Telegrams and telephones	—	3	3	10	15	12	10	12	9	10	1	9	9	15	—	2	—	—	—	120
Stores :—																				
General Equipment... ..	334	712	192	214	286	187	151	196	192	266	180	162	228	131	—	496	—	—	—	3,927
Surgical Equipment... ..	—	1	—	18	—	11	15	—	2	7	—	—	2	45	—	6	—	—	—	107
Instruments	47	58	22	31	47	32	24	59	29	47	29	37	38	44	—	146	—	—	—	690
Drugs	90	75	108	134	118	112	115	97	49	88	84	75	83	165	—	98	—	—	—	1,491
Dressings	12	4	13	59	31	2	29	41	10	36	29	37	22	46	—	—	—	—	—	371
Transport of stores	3	—	12	12	12	12	12	12	12	12	12	12	12	12	—	12	—	—	—	159
Books and periodicals	1	1	1	1	1	1	1	1	1	1	1	1	—	—	—	—	—	—	—	12
Petty expenses	17	40	295	17	21	29	11	22	14	18	16	17	17	15	—	24	—	—	—	573
TOTAL	2,253	2,684	2,238	2,551	2,869	2,079	1,994	1,977	1,687	2,060	1,804	1,822	1,568	2,100	586	1,430	230	146	117	† 32,195

* Including 20 per cent permanent increase ; but excluding war bonuses which were charged against a special credit of M. of Finance.
† Excluding upkeep of buildings, for which no account is kept by P.H.D. but by P.W.M.

TABLE XXIX.—ACTUAL EXPENDITURE.—(C) PROVINCIAL COUNCIL OPHTHALMIC HOSPITALS, 1921-1922.

CHAPTER.	GHARBIYA.					ASYUT.		DAQAHLIYA.	
	Grant.	Expenditure.	Expenditure Per Unit.			Grant.	Expenditure.	Grant.	Expenditure.
			Mahalla el Kubra.	Kafr el Zaiyat.	Santa.				
Employees	810	760	262	264	234	223	45	353	329
Servants	474	459	120	134	205	104	87	288	244
Money to meet salaries of Nizami Gaffirs	24	24	—	—	24	—	—	—	—
Transport and travelling allowance :—									
Travelling allowance	18	11	—	—	11	L.E. 220 for dépenses diverses, no details.	—	100	—
Railways... ..		35	8	6	21		25		73
Sundry		10	2	2	6		41		44
Food	130	96	—	—	96	—	—	160	88
Water	—	—	—	—	—	—	2	—	—
Light and heating	34	20	5	5	10	—	4	20	14
Rent... ..	—	—	—	—	—	—	—	15	—
General furniture :—									
Equipment	500	296	85	88	123	*87	186	200	186
Instruments		72	30	14	28		25		37
Drugs		273	67	71	135		48		83
Dressings... ..	240	5	5	—	—	—	—	150	—
Stationery and periodicals	—	—	—	—	—	—	—	8	—
Post and telegrams	3	4	2	1	1	1	1	1	—
Petty expenses	45	13	2	3	8	15	10	15	15
TOTAL... ..	2,278	2,078	588	588	902	547	*375	1,310	1,113

* This besides L.E. 299 cost of new tents purchased by permission of the Provincial Council to replace worn out ones, paid for from economies.
N.B.—Up-Keep : Gharbiya Provincial Council Budget L.E. 50 for each hospital.

TABLE XXX.—COMPARISON OF THE COST OF MAINTENANCE OF A PERMANENT
OPHTHALMIC HOSPITAL IN 1914 AND 1922.

	Number.	1914.	TOTAL.	Number	1922.	TOTAL.
		L.E.	L.E.		L.E.	L.E.
ART. 1.— <i>Salaries, Wages, and Allowances</i> :—						
A.—Pensionable Staff :—						
Medical Officer	2	336		2	420	
Clerk	1	60		1	90	
			396			510
C.—Hors Cadre Staff :—						
Moawin	1	48		1	60	
Chief attendant	1	36		2	84	
Attendants (male)	2	42		5	150	
Attendants (female)	2	36		2	42	
Cook	1	24		1	42	
Sai	1	18		1	30	
Gardener	—	—		1	30	
Boab	1	18		—	—	
Sundry subordinate staff	3	54		—	—	
	12		276	13		438
20 per cent War Gratuity		—	—		—	189
E.—Allowances		72	72			
ART. 2.— <i>Transport, Transfer, and Travelling Allowances</i> :—						
Transport	}	50	50	}	5	105
Transfer					50	
Travelling allowance					50	
ART. 3.— <i>Food</i>			139			530
ART. 5.— <i>Rent, Water, Lighting, etc.</i> :—						
Water		30			60	
Lighting... ..		40			50	
Heating		20			30	
Sewage		12			—	
			102			140
ART. 6.— <i>Books and Periodicals</i>			1			1
ART. 7.— <i>Telegrams and Telephones</i> :—						
Telegrams	}	9	9	}	2	12
Telephones					10	
ART. 8.— <i>Petty Expenses</i>			12			30
ART. 11.— <i>Stores</i>			300			500
TOTAL... ..			1,357			2,455

TABLE XXXI.—COST OF UNIFORM DIETS FOR ALL IN-PATIENTS AT OPHTHALMIC HOSPITALS DURING 1922, EXCLUDING COST OF RATIONS OF EMPLOYEES.

HOSPITALS.	Number of Diets issued.	Total Cost. *	Cost per Day per Head.
		L.E.	Mills.
Benha	4,224	276	65·4
Damanhûr	3,606	221	61·4
Shibîn el Kôm	6,293	349	55·4
Mansûra	6,943	371	53·4
Beni Suef	5,927	295	49·7
No. 3 Camp, Aswân and Luxor	3,680	176	47·9
Zagazig	5,209	248	47·7
Minya	5,712	269	47·1
Asyût	7,744	355	45·8
Faîyûm	3,361	153	45·6
Tanta	5,500	241	43·8
Daqahliya Travelling† : Mit Ghamr, Fâriskûr, and Simbellawein,	2,198	88	40·0
No. 1 Camp, Rôd el Farag... ..	4,215	161	38·3
Sohâg	7,880	263	33·4
Santa†	3,047	96	31·5
No. 2 Stationary, Gîza	6,482	189	29·1
TOTAL... ..	82,021	3,751	45·7

* Fuel excluded.
† Rations of these hospitals are not supplied by contractors but bought locally.

Scale of Full Diet as given to all In-patients at Ophthalmic Hospitals.

	Grammes.
Bread	600
Beef	150
Vegetables	150
Lentils... ..	75
Rice	75
Milk	200
Artificial butter	25
Sugar	30
Salt	15

TABLE XXXII.—NUMBER OF BEDS AT THE OPHTHALMIC HOSPITALS.

	First.	Third.
No. 1 Travelling	—	10
No. 2 Stationary	—	20
No. 3 Travelling	—	10
Tanta	—	20
Asyût	1	27
Mansûra	—	20
Beni Suef	—	16
Zagazig	—	16
Damanhûr	—	16
Shibîn el Kôm	—	16
Sohâg	—	16
Minya	—	16
Faîyûm	—	12
Benha	—	16
Alexandria	—	30
Port Said	—	6
Qena	—	20
Damietta	—	5
Daqahliya	—	8
Santa	—	10

8.—STATISTICS OF SCHOOL CLINICS.

(a) Statistics of Ophthalmic Treatment in Schools, 1921-1922.

Ophthalmic treatment at the Government Primary Schools of Tanta, Asyût, Mansûra, Beni Suef, Zagazig, Damanhûr, Shibîn el Kôm, Sohâg, Minya, Faîyûm, Gîza, Benha, Alexandria, Husseinîya and Muhammad Aly at Cairo, during 1921-1922.

TABLE I.—PUPILS INSPECTED.

SCHOOLS.	BEGINNING OF THE YEAR.			END OF THE YEAR.		
	Pupils inspected.	Pupils with trachoma.	Per cent.	Pupils inspected.	Pupils with trachoma.	Per cent.
Tanta	610	518	84·9	589	526	89·3
Asyût	418	404	96·6	409	391	95·6
Mansûra	486	427	87·8	471	410	87·0
Beni Suef	376	356	94·7	369	352	95·4
Zagazig	366	309	84·4	344	292	84·9
Damanhûr	240	209	87·0	223	198	88·7
Shibîn el Kôm	157	154	98·0	148	139	93·9
Sohâg	208	206	99·0	234	231	98·7
Minya	297	282	94·9	302	290	96·0
Faîyûm	227	225	99·0	226	224	99·1
Gîza	246	239	97·2	229	222	96·9
Benha	373	350	93·8	358	334	93·3
Alexandria	370	212	57·3	366	222	60·6
Husseinîya	681	591	86·8	655	569	86·8
Muhammad Aly	597	554	92·8	594	559	94·1
TOTAL	5,652	5,036	89·1	5,517	4,959	89·8

TABLE IIa.—CONDITION OF CONJUNCTIVA.

SCHOOLS.	BEGINNING OF THE YEAR.							END OF THE YEAR.						
	Healthy.	Conjunctivitis.	TRACHOMA.				TOTAL.	Healthy.	Conjunctivitis.	TRACHOMA.				TOTAL.
			I.	II.	III.	IV.				I.	II.	III.	IV.	
Tanta... ..	76	16	34	28	211	245	610	63	—	4	2	234	286	589
Per cent ...	12.4	2.6	5.6	4.6	34.6	40.1		10.7	—	0.7	0.3	39.7	48.5	
Asyût	14	—	81	75	122	126	418	18	—	45	18	144	184	409
Per cent ...	3.5	—	19.3	17.9	29.1	30.1		4.4	—	11.0	4.4	35.2	44.9	
Mansûra	59	—	61	9	115	242	486	61	—	53	2	62	293	471
Per cent ...	12.1	—	12.5	1.8	23.7	49.8		12.9	—	11.2	0.4	13.2	62.2	
Beni Suef... ..	20	—	26	96	102	132	376	17	—	1	—	28	323	369
Per cent ...	5.3	—	6.9	25.5	27.1	35.1		4.6	—	0.3	—	7.6	87.5	
Zagazig	57	—	53	32	120	104	366	50	2	7	2	136	147	344
Per cent ...	15.5	—	14.5	8.7	32.8	28.4		14.5	0.6	2.0	0.6	39.5	42.7	
Damanhûr	31	—	22	23	77	87	240	25	—	11	4	96	87	223
Per cent ...	12.9	—	9.1	9.6	32.1	36.2		11.2	—	4.9	1.8	43.0	39.0	
Shibin el Kôm... ..	3	—	5	23	78	48	157	9	—	5	2	83	49	148
Per cent ...	1.9	—	3.2	14.6	49.7	30.6		6.1	—	3.4	1.3	56.0	33.1	
Sohâg	2	—	33	28	91	54	208	3	—	25	21	121	64	234
Per cent ...	0.9	—	15.9	13.5	43.7	25.9		1.3	—	10.7	8.9	51.7	27.3	
Minya	15	—	20	27	151	84	297	12	—	28	17	126	119	302
Per cent ...	5.0	—	6.7	9.1	50.8	28.3		4.0	—	9.2	5.6	41.7	39.4	
Faîyûm	2	—	18	22	145	40	227	2	—	9	8	159	48	226
Per cent ...	0.9	—	7.9	9.7	63.8	17.6		0.9	—	4.0	3.5	70.3	21.2	
Gîza	7	—	22	23	96	98	246	7	—	4	2	127	89	229
Per cent ...	2.8	—	8.9	9.3	39.0	39.8		3.0	—	1.7	0.9	55.4	38.9	
Benha	23	—	58	12	224	56	373	24	—	27	6	203	98	358
Per cent ...	6.2	—	15.5	3.2	60.0	15.0		6.7	—	7.5	1.7	56.7	27.3	
Alexandria	151	7	86	21	53	52	370	142	2	79	11	48	84	366
Per cent ...	40.8	1.9	23.2	5.7	14.3	14.0		38.8	0.5	21.6	3.0	13.1	22.9	
Husseiniya	90	—	193	76	170	152	681	86	—	151	15	228	175	655
Per cent ...	13.2	—	28.3	11.1	24.9	22.3		13.1	—	23.0	2.3	34.8	26.7	
Muhammad Aly	43	—	106	56	191	201	597	35	—	17	4	203	335	594
Per cent ...	7.2	—	17.8	9.4	31.9	33.7		5.9	—	2.8	0.7	34.2	56.3	
TOTAL	593	23	818	551	1946	1721	5,652	554	4	466	114	1938	2381	5,517
Per cent ...	10.5	.4	14.5	9.7	34.4	30.4		10.0	0.1	8.4	2.0	36.2	43.2	

TABLE IIb.—EFFECT OF TREATMENT ON SERIOUS STAGES OF TRACHOMA.

YEAR.	BEGINNING OF THE YEAR.			END OF THE YEAR.	
	Pupils with any stage of Trachoma.	Pupils with serious stage of Trachoma I. and II.		Pupils with serious stage of Trachoma I. and II.	
		No.	Per Cent.	No.	Per Cent.
1907-1908	464	289	62.3	—	—
1914-1915	1,553	342	22.0	61	4.0
1916-1917	1,528	327	21.4	48	3.0
1917-1918	1,699	282	16.6	71	4.2
1919-1920	2,454	410	16.7	201	8.2
1920-1921	3,363	643	19.1	290	8.6
1921-1922	5,036	1,369	27.2	580	11.5

TABLE IIc.—STAGES OF TRACHOMA AT BEGINNING AND END OF SCHOOL YEAR.

STAGES OF TRACHOMA.						BEGINNING OF THE YEAR.		END OF THE YEAR.	
						No.	Per Cent.	No.	Per Cent.
Trachoma	I	...	...	...	...	818	16.2	466	9.4
"	II	...	...	...	...	551	10.9	114	2.3
"	III	...	...	...	...	1,946	38.6	1,998	40.3
"	IV	...	...	...	...	1,721	34.2	2,381	48.0

TABLE III*b*.—COMPARISON OF SERIOUS STAGES OF TRACHOMA (BEGINNING OF THE YEAR).

CLASS.	Total Cases of Trachoma.		Serious Stages of Trachoma I. and II.		Per Cent.	
	1920-1921.	1921-1922.	1920-1921.	1921-1922.	1920-1921.	1921-1922.
First Year ...	1,098	1,460	366	622	33.3	42.6
Second Year ...	963	1,575	152	411	15.7	26.1
Third Year...	719	1,243	79	211	10.9	16.9
Fourth Year ...	583	758	46	125	7.8	16.5

TABLE IV.—VISION OF ALL PUPILS WITHOUT SPECTACLES.

VISION.	Tanta.	Asyût.	Mansûra.	Beni Suef.	Zagazig.	Damanhûr.	Shibin el Kôm.	Sohâg.	Minya.	Faîyûm.	Giza.	Benha.	Alexandria.	Husseiniya.	Muhammad Ali.	TOTAL.	GRAND TOTAL.	Per Cent.
<i>Good Vision</i> :—																		
(a) Normal vision in each eye 6/6 and 6/6 ...	87	62	58	18	51	63	22	21	81	3	29	46	68	84	122	815		
b) Vision 6/6 and 6/9 or 6/9 and 6/9 ...	122	100	89	69	85	40	24	37	48	24	53	64	133	212	153	1,253	2,068	36.6
<i>Fair Vision</i> :—																		
(a) Vision 6/6 and 6/12 or 6/9 and 6/12 or 6/12 and 6/12 ...	110	94	87	70	77	44	30	51	63	37	52	62	53	145	150	1,125		
(b) Vision 6/6 and 6/18 ...	11	43	4	4	99	4	37	52	55	15	9	67	2	8	10	420	1,545	27.3
<i>Bad Vision</i> :—																		
Fails to attain any of the above standards ...	280	119	248	215	54	89	44	47	50	148	103	134	114	232	162	2,039	2,039	36.0
TOTAL ...	610	418	486	376	366	240	157	208	297	227	246	373	370	681	597	5652	5,652	

TABLE V.—SPECTACLES ORDERED.

	Tanta.	Asyût.	Mansûra.	Beni Suef.	Zagazig.	Damanhûr.	Shibîn el Kôm.	Sohâg.	Minya.	Faiyûm.	Giza.	Benha.	Alexandria.	Husseiniya.	Muhammad Aly.	Total.
Number of pupils now attending obtained spectacles in previous years	18	14	29	11	16	11	8	12	12	13	3	9	20	9	—	185
Number of pupils now attending obtained spectacles in this year... ..	—	5	6	2	—	5	7	—	—	4	3	10	—	13	12	67
Number of pupils now attending ordered spectacles but not yet obtained	14	—	13	—	3	2	—	2	—	3	4	7	6	15	—	69
	32	19	48	13	19	18	15	14	12	20	10	26	26	37	12	321
Spectacles on order or under repair	14	1	13	1	5	4	—	2	—	3	3	6	6	17	—	75
Number of pupils wearing spectacles on date of general inspection	15	11	32	12	12	14	15	9	12	14	6	15	16	20	12	215
Net number not wearing spectacles which were previously ordered	3	7	3	—	2	—	—	3	—	3	1	5	4	—	—	31

TABLE VI.—VISION OF PUPILS ORDERED SPECTACLES.

	TOTAL.	GRAND TOTAL.	Per Cent.
(a) <i>Before ordering.</i>			
Good Vision :—			
(a) Nomal vision in each eye 6/6 and 6/6	1		
(b) Vision 6/6 and 6/9 or 6/9 and 6/9	—	1	0·3
Fair Vision :—			
(a) Vision 6/6 and 6/12, 6/9 and 6/12, 6/12 and 6/12	9		
(b) Vision 6/6 and 6/18	3	12	3·7
Bad Vision :—			
Fails to attain any of the above standards	308	308	95·9
TOTAL... ..	321	321	

(b) <i>After ordering.</i>			
Good Vision :—			
(a) Attains 6/6 and 6/6 with aid of spectacles not greater in strength than +—6D.	18		
(b) Attains 6/6 and 6/9 or 6/9 and 6/9 with aid of spectacles not greater in strength than +—6D.	41	59	18·4
Fair Vision :—			
(a) Attains 6/6 and 6/12 or 6/9 and 6/12 or 6/12 and 6/12 with aid of spectacles not greater in strength than +—6D.	63		
(b) Attains 6/6 and 6/18 with aid of spectacles not greater in strength than +—6D.	15	78	24·3
Bad Vision:—			
(a) Fails to attain any of the above standards with aid of spectacles not greater in strength than +—6D	153		
(b) Attains any of the above standards with aid of spectacles greater in strength than +—6D	31	184	57·3
TOTAL... ..	321	321	

TABLE VII.—CONDITION OF CORNEA BEFORE TREATMENT.

SCHOOLS.	Both Corneæ clear.	One cornea clear the other showing opacity.	Opacity of both corneæ.
Tanta	540	50	20
Asyût	378	33	7
Mansûra	412	49	25
Beni Suef	328	31	17
Zagazig	323	28	15
Damanhûr	218	20	2
Shibîn el Kôm	138	13	6
Sohâg	186	19	3
Minya	266	26	5
Faiyûm	175	34	18
Gîza	208	29	9
Benha	310	36	27
Alexandria	365	5	—
Husseiniya	650	19	12
Muhammad Aly	522	56	19
TOTAL... ..	5,019	448	185
Per cent	88·8	7·9	3·3

(b) Statistics of Ophthalmic Treatment in Schools, 1922-1923.

Ophthalmic treatment at the Government Primary Schools of Tanta, Asyût, Mansûra, Beni Suef, Zagazig, Damanhûr, Shibîn el Kôm, Sohâg, Minya, Faîyûm, Gîza, Benha, Moharram Bey and Ras El-Tin at Alexandria, Husseinîya, and Muhammad Aly at Cairo, during 1922-1923.

TABLE I.—PUPILS INSPECTED.

SCHOOLS.	Beginning of the Year.			END OF THE YEAR.		
	Pupils inspected.	Pupils with Trachoma.	Per Cent.	Pupils inspected.	Pupils with Trachoma.	Per Cent.
Tanta	579	531	91·7	629	575	91·4
Asyût	515	500	97·1	487	472	96·9
Mansûra	483	412	85·3	485	416	85·7
Beni Suef	373	349	93·6	347	327	94·2
Zagazig	380	327	86·0	379	330	87·0
Damanhûr	276	259	93·8	280	263	93·9
Shibin el Kôm	170	165	97·0	162	158	97·5
Sohâg	248	247	99·6	234	231	98·7
Minya	324	311	96·0	307	294	95·7
Faîyûm	226	222	98·2	224	220	98·2
Gîza	304	286	94·1	287	271	94·4
Benha	388	372	95·9	383	367	95·8
Muharram Bey	382	290	75·9	363	273	75·2
Husseinîya	728	652	89·6	713	626	87·7
Muhammad Aly	655	631	96·3	657	620	94·3
Râs el Tîn	785	586	74·6	762	572	75·0
TOTAL	6,816	6,140	90·08	6,699	6,015	89·78

TABLE IIa.—CONDITION OF CONJUNCTIVA.

SCHOOLS.	BEGINNING OF THE YEAR.							END OF THE YEAR.						
	Healthy.	Conjunctivitis.	TRACHOMA.				TOTAL.	Healthy.	Conjunctivitis.	TRACHOMA.				TOTAL.
			I.	II.	III.	IV.				I.	II.	III.	IV.	
Tanta	46	2	35	29	270	197	579	54	—	31	3	254	287	629
Per cent ...	7·9	·3	6·0	5·0	46·6	34·0		8·6	—	4·9	·4	40·4	45·6	
Asyût	15	—	99	95	159	147	515	15	—	73	33	218	143	487
Per cent ...	2·9		19·2	18·4	30·9	28·5		3·1	—	14·9	6·7	44·3	30·4	
Mansûra	71	—	83	11	79	239	483	69	—	83	1	59	273	485
Per cent ...	14·7		17·2	2·3	16·3	49·5		14·2	—	17·1	·2	12·2	56·3	
Beni Suef	24	—	26	49	81	193	373	20	—	—	—	35	292	347
Per cent ...	6·4		6·9	13·1	21·7	51·7		5·7	—	—	—	10·1	84·1	
Zagazig	53	—	36	37	140	114	380	49	—	7	3	172	148	379
Per cent ...	13·9		9·5	9·7	36·8	30·0		12·9	—	1·8	·8	45·4	39·0	
Damanhûr	17	—	54	29	125	51	276	17	—	22	3	157	81	280
Per cent ...	6·1		19·6	10·5	45·3	18·5		6·1	—	7·8	1·1	56·1	28·9	
Shibîn el Kôm	5	—	9	15	98	43	170	4	—	1	1	92	64	162
Per cent ...	2·9		5·3	8·8	57·6	25·3		2·5	—	·6	·6	56·7	39·5	
Sohâg	1	—	34	41	111	61	248	3	—	32	29	115	55	234
Per cent ...	·4		13·7	16·5	44·7	24·6		1·6	—	13·7	12·3	49·1	23·5	
Minya	13	—	18	23	150	120	324	13	—	14	14	134	132	307
Per cent ...	4·0		5·5	7·1	46·3	37·0		4·2	—	4·6	4·6	43·6	42·9	
Faîyûm	4	—	11	29	149	33	226	4	—	8	19	159	34	224
Per cent ...	1·8		4·8	12·8	65·9	14·6		1·8	—	3·6	8·5	70·9	15·1	
Gîza	18	—	13	16	130	127	304	16	—	3	13	130	125	287
Per cent ...	5·9		4·3	5·2	42·7	41·8		5·6	—	1·0	4·5	45·3	43·5	
Benha	16	—	71	38	183	80	388	16	—	22	6	160	179	383
Per cent ...	4·1		18·3	9·8	47·2	20·6		4·2	—	5·7	1·5	41·8	46·7	
Muharram Bey	92	—	142	21	57	70	382	90	—	125	9	71	68	363
Per cent ...	24·1		37·2	5·5	14·9	18·3		24·8	—	34·4	2·5	19·6	18·6	
Husseiniya	76	—	229	77	166	180	728	87	—	99	10	241	276	713
Per cent ...	10·4		31·4	10·6	22·8	24·7		12·2	—	13·8	1·4	33·8	38·7	
Muhammad Aly	24	—	214	58	177	182	655	37	—	70	4	233	313	657
Per cent ...	3·7		32·7	8·8	27·0	27·8		5·6	—	10·6	6·6	35·5	47·6	
Râs el Tîn	199	—	267	73	174	72	785	190	—	148	6	278	140	762
Per cent ...	25·3		34·0	9·3	22·2	9·2		24·9	—	19·4	8	36·5	18·3	
TOTAL...	674	2	1341	641	2249	1909	6816	684	—	738	154	2508	2615	6699
Per cent ...	9·9	·03	19·7	9·4	32·9	28·0		10·2	—	11·0	2·3	37·4	39·0	

TABLE IIb.—CONDITION OF TRACHOMA IN GOVERNMENT SCHOOLS (IN GROUPS).
Numbers.

METHOD OF TREATMENT.			TRACHOMA.			
			I.	II.	III.	IV.
Regular treatment as carried out at O.Hs. (Tanta, Asyût, Mansûra, Beni Suef, Damanhûr, Shibîn el Kôm and Benha)	Preliminary ...		377	266	995	950
	Final		232	47	975	1,324
Treatment by painting on Saturdays, and Mondays ; and by drops on Sundays, Tuesdays and Wednesdays (Zagazig and Minya)	Preliminary ...		54	60	290	234
	Final		21	17	306	280
Blue drops only (Sohâg and Faîyûm)	Preliminary ...		45	70	260	94
	Final		40	48	274	89
CuSO4 drops 3 per cent (Gîza and Muharram Bey) ...	Preliminary ...		155	37	187	197
	Final		128	22	201	193
Treatment by painting 10 per cent CuSO4 twice a week and drops CuSO4 3 per cent on alternate days by tamurgi (Husseinîya)	Preliminary ...		229	77	166	180
	Final		99	10	241	276
HgCl2 for a few days preceded in certain cases by mechanical treatment. After this CuSO4 3 per cent drops (Muhammad Aly)	Preliminary ...		214	58	177	182
	Final		70	4	233	313
Treatment by painting 10 per cent CuSO4 on Saturdays, Mondays and Wednesdays, and drops 3 per cent by B.T. on the other days (Râs el Tîn)	Preliminary ...		267	73	174	72
	Final		148	6	278	140

Per Cent.

Regular treatment as carried out at O.Hs. (Tanta, Asyût, Mansûra, Beni Suef, Damanhûr, Shibîn el Kôm and Benha)	Preliminary ...	14·6	10·3	38·4	36·7
	Final	9·0	1·8	37·8	51·4
Treatment by painting on Saturdays and Mondays ; and by drops on Sundays, Tuesdays and Wednesdays (Zagazig and Minya)	Preliminary ...	8·4	2·4	45·4	36·7
	Final	3·3	2·7	49·0	44·9
Blue drops only (Sohâg and Faîyûm)	Preliminary ...	9·6	14·9	55·4	20·0
	Final	8·9	10·6	60·7	19·7
CuSO4 drops 3 per cent (Gîza and Muharram Bey) ...	Preliminary ...	26·9	6·4	32·4	34·2
	Final	23·5	4·0	36·9	35·5
Treatment by painting 10 per cent CuSO4 twice a week and drops CuSO4 3 per cent on alternate days by tamurgi (Husseinîya)	Preliminary ...	35·1	11·8	25·4	27·6
	Final	15·8	1·6	38·5	44·1
HgCl2 for a few days preceded in certain cases by mechanical treatment. After this CuSO4 3 per cent drops (Muhammad Aly)	Preliminary ...	33·9	9·2	28·0	28·8
	Final	11·3	·6	37·5	50·5
Treatment by painting 10 per cent CuSO4 on Saturdays, Mondays, and Wednesdays and drops 3 per cent by B.T. on the other days (Râs el Tîn)	Preliminary ...	45·5	12·4	29·7	12·3
	Final	25·8	1·0	48·6	24·5

TABLE IIc.—EFFECT OF TREATMENT ON SERIOUS STAGES OF TRACHOMA.

YEAR.	BEGINNING OF THE YEAR.			END OF THE YEAR.	
	Pupils with any stage of Trachoma.	Pupils with serious stages of Trachoma I and II.		Pupils with serious stages of Trachoma I and II.	
	No.	No.	Per Cent.	No.	Per Cent.
1907-1908	464	289	62.3	—	—
1914-1915	1,553	342	22.0	61	4.0
1916-1917	1,528	327	21.4	48	3.0
1917-1918	1,699	282	16.6	71	4.2
1919-1920	2,454	410	16.7	201	8.2
1920-1921	3,363	643	19.1	290	8.6
1921-1922	5,036	1,369	27.2	580	11.5
1922-1923	6,140	1,982	32.3	892	14.5

TABLE II*d*.—STAGES OF TRACHOMA AT BEGINNING AND END OF SCHOOL YEAR.

STAGES OF TRACHOMA.						BEGINNING OF THE YEAR.		END OF THE YEAR.	
						No.	Per Cent.	No.	Per Cent.
Trachoma	I	...	...	...	...	1,341	21.8	738	12.2
„	II	...	...	...	...	641	10.4	154	2.5
„	III	...	...	...	...	2,249	36.6	2,508	41.7
„	IV	...	...	...	...	1,909	31.1	2,615	43.5

TABLE IIIa.—TRACHOMA AND ITS RELATION TO SCHOOL YEARS (BEGINNING OF THE YEAR.)

SCHOOLS.	1ST YEAR.				2ND YEAR.				3RD YEAR.				4TH YEAR.											
	Healthy.	Conjuncti- vitis.	TRACHOMA.			Healthy.	Conjuncti- vitis.	TRACHOMA.			Healthy.	Conjuncti- vitis.	TRACHOMA.											
			I.	II.	III.			IV.	I.	II.			III.	IV.										
Tanta	14	—	22	12	94	31	13	1	11	9	92	63	12	—	2	3	48	64	7	1	—	5	36	39
Asyût	6	—	45	49	43	27	3	—	28	33	39	44	5	—	18	10	55	51	1	8	8	3	22	25
Mansûra	26	—	42	3	28	36	24	—	22	6	26	91	13	—	14	2	14	76	8	—	5	—	11	36
Beni Suef	8	—	12	22	15	36	2	—	12	16	24	55	7	—	1	9	21	49	7	—	1	2	21	53
Zagazig	15	—	29	29	50	13	21	—	4	7	43	24	12	—	2	1	32	38	5	—	1	—	15	39
Damanhûr	3	—	21	20	23	5	6	—	15	4	41	14	3	—	11	5	40	18	5	—	7	—	21	14
Shibîn el Kôm	2	—	8	9	25	7	1	—	1	4	32	8	1	—	—	2	28	15	1	—	—	—	13	13
Sohâg	—	—	14	16	29	9	1	—	12	16	36	15	—	—	7	7	32	19	—	—	1	2	14	18
Minya	4	—	8	12	46	17	3	—	7	4	43	38	3	—	2	4	25	38	3	—	1	3	36	27
Faîyûm... ..	—	—	4	13	34	5	3	—	6	10	43	11	—	—	1	6	42	11	1	—	—	—	30	6
Gîza	10	—	7	8	35	52	3	—	3	3	41	38	5	—	3	4	36	30	—	—	—	1	18	7
Benha	—	—	38	17	29	9	4	—	22	8	58	22	5	—	9	9	58	27	7	—	2	4	38	22
Muharram Bey	25	—	54	8	9	13	29	—	38	8	18	27	28	—	8	2	18	18	10	—	22	3	12	12
Husseinîya	13	—	81	30	35	16	19	—	69	23	50	42	20	—	45	13	52	59	24	—	34	11	29	63
Muhammad Aly	5	—	59	18	43	25	4	—	62	14	43	68	8	—	60	21	46	55	7	—	33	5	45	34
Râs el Tîn	65	—	91	23	48	19	85	—	82	33	55	26	28	—	60	10	38	14	21	—	34	7	33	13
TOTAL	196	—	535	289	586	320	221	1	394	198	684	586	150	—	263	108	585	582	107	1	149	46	394	421

TABLE III*b*.—COMPARISON OF SERIOUS STAGES OF TRACHOMA (BEGINNING OF THE YEAR).

CLASS.	TOTAL CASES OF TRACHOMA.		SERIOUS STAGES OF TRACHOMA I and II.		PER CENT.	
	1921-22		1921-22		1921-22	
	1922-23		1922-23		1922-23	
First Year	1,460	1,730	622	824	42·6	47·6
Second „	1,575	1,862	411	592	26·1	31·8
Third „	1,243	1,538	211	371	16·9	24·1
Fourth „	758	1,010	125	195	16·5	19·3

TABLE IV.—VISION OF ALL PUPILS WITHOUT SPECTACLES.

VISION.	Tanta.	Asyût.	Mansûra.	Beni Suef.	Zagazig.	Damanhûr.	Shibin el Kôm.	Sohâg.	Minya.	Faîyûm	Giza.	Benha.	Muharram Bey.	Husseiniya.	Muhammad Aly.	Râs el Tin.	TOTAL.	GRAND TOTAL.	Per cent.
<i>Good Vision</i> :— (a) Normal vision in each eye 6/6 and 6/6 (b) Vision 6/6 and 6/9 or 6/9 and 6/9	59	108	59	25	53	80	23	23	71	14	31	63	107	61	99	306	1,182		
	111	112	107	66	89	49	28	49	68	22	44	68	77	214	226	190	1,520	2,702	39·6
<i>Fair Vision</i> :— (a) Vision 6/6 and 6/12 or 6/9 and 6/12 or 6/12 and 6/12 (b) Vision 6/6 and 6/18	133	111	82	83	89	45	34	54	70	37	64	64	70	26	18	98	1,078		
	1	5	2	4	84	4	2	3	73	1	1	4	6	149	140	36	515	1,593	23·4
<i>Bad Vision</i> :— Fails to attain any of the above standards	275	179	233	195	65	98	83	119	42	152	164	189	122	278	172	155	2,521	2,521	36·9
	579	515	483	373	380	276	170	248	324	226	304	388	382	728	655	785	6,816	6,816	—

TABLE V.—SPECTACLES ORDERED.

	Tanta.	Asyût.	Mansûra.	Beni Suef.	Zagazig.	Damanhûr.	Shibîn el Kôm.	Sohâg.	Minya.	Faiyûm.	Giza.	Benha.	Muharram Bey.	Husseiniya.	Muhammad Aly.	Râs el Tin.	TOTAL.
Number of pupils now attending obtained spectacles in previous years	29	12	33	10	10	13	12	6	17	9	15	15	15	11	7	17	231
Number of pupils now attending obtained spectacles in this year	—	2	—	2	2	11	—	2	—	—	3	1	—	21	11	—	55
Number of pupils now attending ordered spectacles but not yet obtained	13	3	16	5	3	—	6	—	—	9	1	5	8	4	3	20	96
TOTAL	42	17	49	17	15	24	18	8	17	18	19	21	23	36	21	37	382
Spectacles on order or under repair	29	3	16	6	3	—	6	2	—	11	1	5	8	6	3	20	119
Number of pupils wearing spectacles on date of general inspection	12	12	24	11	12	21	12	5	17	5	14	14	15	29	17	17	237
Net number not wearing spectacles which were previously ordered	1	2	9	—	—	3	—	1	—	2	4	2	—	1	1	—	26

TABLE VI.—VISION OF PUPILS ORDERED SPECTACLES.

	TOTAL.	GRAND TOTAL.	Per Cent.
(a) Before ordering.			
Good Vision :—			
(a) Normal vision in each eye 6/6 and 6/6	4		
(b) Vision 6/6 and 6/9 or 6/9 and 6/9	4	8	2·1
Fair Vision :—			
(a) Vision 6/6 and 6/12, 6/9 and 6/12, 6/12 and 6/12	11		
(b) Vision 6/6 and 6/18	3	14	3·6
Bad Vision :—			
Fails to attain any of the above standards	360	360	94·2
TOTAL.....	382	382	

(b) After ordering.

Good Vision :			
(a) Attains 6/6 and 6/6 with aid of spectacles not greater in strength than +—6 D.	29		
(b) Attains 6/6 and 6/9 or 6/9 and 6/9 with aid of spectacles not greater in strength than +—6 D.	59	88	23·0
Fair Vision :—			
(a) Attains 6/6 and 6/12 or 6/9 and 6/12 or 6/12 and 6/12 with aid of spectacles not greater in strength than +—6D.	84		
(b) Attains 6/6 and 6/18 with aid of spectacles not greater in strength than +—6 D.	16	100	26·2
Bad Vision :—			
(a) Fails to attain any of the above standards with aid of spectacles not greater in strength than +—6 D.	158		
(b) Attains any of the above standards with aid of spectacles greater in strength than +—6 D.	36	194	50·8
TOTAL...	382	382	

TABLE VII.—CONDITION OF CORNEA BEFORE TREATMENT.

SCHOOL.	Both Corneæ clear.	One cornea clear the other showing opacity.	Opacity of both corneæ.
Tanta	512	41	25
Asyût	454	33	28
Mansûra	412	45	26
Beni Suef	328	32	13
Zagazig	328	34	18
Damanhûr	244	31	1
Shibîn el Kôm	132	17	21
Sohâg	204	34	10
Minya	292	28	4
Faîyûm	153	31	42
Gîza	247	29	28
Benha	330	36	22
Muharram Bey	376	6	—
Husseiniya	679	43	6
Mohammad Aly	586	64	5
Râs el Tîn	737	42	6
TOTAL... ..	6,014	546	255
Per cent	88·2	8·0	3·7

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